

# *U.S. Antarctic Marine Living Resources Program*

## *2013/2014 Weekly Field Reports*

### *Cape Shirreff, Livingston Island*

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#### Science Report

##### Seabirds

1. Chinstrap chicks have nearly finished fledging. We weighed fledglings before they departed to sea from 22 February to 1 March. This measurement allows us to assess their condition at fledging. The average mass was 3167 g ( $n = 183$ , s.d. = 322.48), which is 0.54% higher than the 16 year average of 3150 g. The heaviest fledgling weighed 4250 g and the lightest weighed 2050 g.
2. We have completed 48-day measurements on three out of the four brown skua chicks that are still alive. The 48-day measurements, which include measurements of bill and tarsus dimensions as well as body weight, are used to determine sex and assess general condition at fledging age.
3. A significant portion of the week was spent cleaning and providing general maintenance to the bird blind, along with compiling and proofing all seabird data.

##### Pinnipeds

4. Of the original 30 CCAMLR attendance Antarctic fur seal females, five had a surviving pup at the conclusion of the study, which is one less than last year.
5. Twenty six of the thirty attendance study females completed at least six trips to sea before they lost their pups. Of the six females with pups at the end of the season, four completed at least 17 trips and one completed 23 trips. Trip durations are as follows: first trip: 3.26 d (s.d. = 1.29,  $n = 30$ ); second trip: 3.21 d (s.d. = 1.46,  $n = 30$ ); third trip: 3.24 d (s.d. = 1.13,  $n = 29$ ); fourth trip: 3.21 d (s.d. = 0.96,  $n = 28$ ); fifth trip: 3.54 d (s.d. = 0.97,  $n = 28$ ); sixth trip: 3.59 d (s.d. = 1.06,  $n = 26$ ). The maximum trip duration for the season was 7.79 days.
6. We concluded monitoring our adult tagged female population and mother pup pairs to get a measure of reproductive success and loss of pups due to leopard seal predation. Our estimate for pup loss to leopard seal predation up to 27 February is 69.6%.
7. We have successfully deployed all 24 of the GLS tags on adult female fur seals. Ten of these females also received TDR instruments. These instruments will record information on foraging location and dive behavior for the duration of the winter.



8. Systematic surveys of defined areas of the Cape for the 500 per annum fur seals tagged as pups were finished this week. We have flipper tagged 161 fur seal pups for future demographic studies and cohort success. Twenty five of these are pups of tagged females. Our remaining 89 tags for the year will be deployed over the next few days.
9. On 1 March, we completed our sixteenth weekly Cape-wide phocid census. We counted 47 southern elephant seals, 11 Weddell seals, and 12 leopard seals.
10. Also on 1 March, we processed our 100<sup>th</sup> and final fur seal scat of the season. This detailed scat analysis will be used to track fur seal diet, diet shifts, as well as a length frequency distribution for their main prey, Antarctic krill.

### Weather

11. We've had a week of storms, precipitation and wind as our season draws to a close. The mean wind speed for the week was 19.9 mph. The max wind was 58 mph. The wind has been almost entirely from the west (94.2%). The low pressure systems this week were accompanied by frequent precipitation. The mean temperature was 1.8°C (range: -0.1 - 4.6°C). The mean daily solar radiation was 8,339 W/m<sup>2</sup>.

### Camp

12. Despite another full science schedule we managed to make some progress on camp maintenance fronts: 1) a window cover was repaired, 2) the bird blind was cleaned and organized for the winter, and 3) the smoker box was cleaned, closed and sealed for the winter.

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Presented by Doug Krause and Michelle Goh, with assistance from Kevin Pietrzak, McKenzie Mudge, Trevor Joyce, and David Vejar at the Cape Shirreff Field Camp, Livingston Island, South Shetland Islands, Antarctica

